In the Claims

Listing of Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

Claims 1-11 (Cancelled).

12. (Currently Amended) A drug delivery ~~device~~ composition for oral administration, and colonic release, of an active agent, comprising:

a) an isolated active agent capable of inactivating an antibiotic, and

b) a pectin-based composition ~~drug delivery device~~ suitable for administering the active agent to the colon, wherein the active agent is incorporated into the composition,

wherein the active agent is an isolated enzyme capable of inactivating a beta-lactam, macrolide, or quinolone antibiotic.

13. (Currently Amended) The drug delivery ~~device~~ composition of Claim 12, wherein the active agent is an enzyme capable of inactivating macrolide or quinolone antibiotics.

14. (Currently Amended) The drug delivery ~~device~~ composition of Claim 13, wherein the enzyme capable of inactivating macrolide antibiotics is erythromycin esterase.

15. (Currently Amended) The drug delivery ~~device~~ composition of Claim 12, wherein the ~~device~~ composition comprises beads of pectin in the form of a cationic salt enclosing the active agent.

16. (Currently Amended) The drug delivery ~~device~~ composition of Claim 15, wherein the pectin is reticulated by a cationic polymer.

17. (Currently Amended) The drug delivery ~~device~~ composition of Claim 15, wherein the pectin salt is a calcium pectinate.

18. (Currently Amended) The drug delivery ~~device~~ composition of Claim 15, wherein the pectin is an amidated pectin.

19. (Withdrawn but Currently Amended) A method of reducing the concentration of an antibiotic in the colon of a patient, comprising orally administering the drug delivery ~~device~~ composition of Claim ~~1~~ 12 to a patient who has been, is being, or will be administered an antibiotic.

20. (Withdrawn but Currently Amended) The method of Claim 19, wherein the active agent in the drug delivery ~~device~~ composition is an isolated enzyme capable of inactivating macrolide or quinolone antibiotics.

21. (Withdrawn) The method of Claim 20, wherein the enzyme capable of inactivating macrolide antibiotics is erythromycin esterase.

22. (Withdrawn but Currently Amended) The method of Claim 19, wherein the ~~device~~ composition comprises beads of pectin in the form of a cationic salt enclosing the active agent.

23. (Withdrawn) The method of Claim 22, wherein the pectin is reticulated by a cationic polymer.

24. (Withdrawn) The method of Claim 22, wherein the pectin salt is a calcium pectinate.

25. (Withdrawn) The method of Claim 22, wherein the pectin is an amidated pectin.

26. (Withdrawn but Currently Amended) A method of preparing a drug delivery ~~device~~ composition for oral administration, and colonic delivery, of an active agent that inactivates an antibiotic, comprising:

a) preparing a 4-10% (m/v) pectin solution that includes an active agent that inactivates an antibiotic,

b) adding the pectin solution to a 2-10% (m/v) calcium chloride solution to form pectin cationically crosslinked beads, and

c) reticulating the pectin beads with a 0.5-2% (m/v) polyethylenimine solution.

27. (Withdrawn) The method of Claim 26, wherein the pectin solution further comprises a second active agent, where the second active agent is an antibiotic, an anti-inflammatory compound, an anti-histamine, an anti-cholinergic, an antiviral, an antimitotic, a peptide, a protein, a gene, an anti-sense oligonucleotide, a diagnostic agent, an immunosuppressive agent or a bacteria.

28. (Currently Amended) A pectin-based drug delivery ~~device~~ composition comprising an isolated active agent capable of inactivating a beta-lactam, macrolide, tetracycline or quinolone antibiotic.

29. (Currently Amended) The drug delivery ~~device~~ composition of Claim 28, wherein the ~~device~~ composition is suitable for administering the active agent to the colon.

30. (Currently Amended) The drug delivery ~~device~~ composition of Claim 28, wherein the active agent is an enzyme capable of inactivating macrolide or quinolone antibiotics.

31. (Currently Amended) The drug delivery ~~device~~ composition of Claim 30, wherein the enzyme capable of inactivating macrolide antibiotics is erythromycin esterase.

32. (Currently Amended) The drug delivery ~~device~~ composition of Claim 28, wherein the ~~device~~ composition comprises beads of pectin in the form of a cationic salt enclosing the active agent.

33. (Currently Amended) The drug delivery ~~device~~ composition of Claim 32, wherein the pectin is reticulated by a cationic polymer.

34. (Currently Amended) The drug delivery ~~device~~ composition of Claim 32, wherein the pectin salt is a calcium pectinate.

35. (Currently Amended) The drug delivery ~~device~~ composition of Claim 32, wherein the pectin is an amidated pectin.

36. (Currently Amended) The drug delivery ~~device~~ composition of Claim 28, further comprising a second active agent, wherein the second agent is an antibiotic, an anti-inflammatory compound, an anti-histamine, an anti-cholinergic, an antiviral, an antimitotic, a peptide, a protein, a gene, an anti-sense oligonucleotide, a diagnostic agent, an immunosuppressive agent or a bacteria..

37. (Withdrawn) A method of reducing the concentration of a macrolide, tetracycline or quinolone antibiotic in the colon of a patient, comprising orally administering an effective, antibiotic-reducing amount of the drug delivery composition of Claim 28 to a patient who has been, is being, or will be administered a macrolide, tetracycline or quinolone antibiotic.

38. (Withdrawn but Currently Amended) The method of Claim 37, wherein the drug delivery ~~device~~ composition administers the active agent to the colon.

39. (Withdrawn but Currently Amended) The method of Claim 37, wherein the active agent in the drug delivery ~~device~~ composition is an isolated enzyme capable of inactivating macrolide or quinolone antibiotics.

40. (Withdrawn) The method of Claim 39, wherein the enzyme capable of inactivating macrolide antibiotics is erythromycin esterase.

41. (Withdrawn but Currently Amended) The method of Claim 37 wherein the ~~device~~ composition comprises beads of pectin in the form of a cationic salt enclosing the active agent.

42. (Withdrawn) The method of Claim 41, wherein the pectin is reticulated by a cationic polymer.

43. (Withdrawn) The method of Claim 41, wherein the pectin salt is a calcium pectinate.

44. (Withdrawn) The method of Claim 41, wherein the pectin is an amidated pectin.

45. (Currently Amended) A drug delivery ~~device~~ composition comprising:

a) a pectin and

b) an isolated active agent capable of inactivating an antibiotic, wherein the active agent is an isolated enzyme capable of inactivating a beta-lactam, macrolide, or quinolone antibiotic.

46. (Currently Amended) The drug delivery ~~device~~ composition of Claim 45, wherein the ~~device~~ composition is suitable for administering the active agent to the colon.

47. (Currently Amended) The drug delivery ~~device~~ composition of Claim 45, wherein the active agent is an enzyme capable of inactivating macrolide or quinolone antibiotics.

48. (Currently Amended) The drug delivery ~~device~~ composition of Claim 47, wherein the enzyme capable of inactivating macrolide antibiotics is erythromycin esterase.

49. (Currently Amended) The drug delivery ~~device~~ composition of Claim 45, further comprising a metal cation.

50. (Currently Amended) The drug delivery ~~device~~ composition of Claim 49, wherein the cation is a calcium ion.

51. (Currently Amended) The drug delivery ~~device~~ composition of Claim 50, further comprising a cationic polymer.

52. (Currently Amended) The drug delivery ~~device~~ composition of Claim 45, wherein the ~~device~~ composition comprises beads of pectin in the form of a cationic salt enclosing the active agent.

53. (Currently Amended) The drug delivery ~~device~~ composition of Claim 52, wherein the pectin is reticulated by a cationic polymer.

54. (Currently Amended) The drug delivery ~~device~~ composition of Claim 52, wherein the pectin salt is a calcium pectinate.

55. (Currently Amended) The drug delivery ~~device~~ composition of Claim 52, wherein the pectin is an amidated pectin.

56. (Withdrawn but Currently Amended) A method of reducing the concentration of an antibiotic in the colon of a patient, comprising orally administering an effective, antibiotic-reducing amount of the drug delivery ~~device~~ composition of Claim 45 to a patient who has been, is being, or will be administered an antibiotic.

57. (Withdrawn but Currently Amended) The method of Claim 56, wherein the drug delivery ~~device~~ composition comprises an enzyme capable of inactivating macrolide or quinolone antibiotics.

58. (Withdrawn) The method of Claim 57, wherein the enzyme capable of inactivating macrolide antibiotics is erythromycin esterase.

59. (Currently Amended) A pectin-based drug delivery ~~device~~ composition comprising:

a) a first isolated active agent capable of inactivating an antibiotic, and

b) a second active agent, where the second active agent is an antibiotic, an anti-inflammatory compound, an anti-histamine, an anti-cholinergic, an antiviral, an antimitotic, a

peptide, a protein, a gene, an anti-sense oligonucleotide, a diagnostic agent, an immunosuppressive agent or a bacteria, wherein the first active agent is an isolated enzyme capable of inactivating a beta-lactam, macrolide, or quinolone antibiotic.

60. (Currently Amended) The drug delivery ~~device~~ composition of Claim 59, wherein the ~~device~~ composition is suitable for administering the active agents to the colon.

61. (Cancelled)

62. (Currently Amended) The drug delivery ~~device~~ composition of Claim 59, wherein the active agent is an enzyme capable of inactivating macrolides or quinolones ~~is erythromycin esterase~~.

63. (Currently Amended) The drug delivery ~~device~~ composition of Claim 59, wherein the ~~device~~ composition comprises beads of pectin in the form of a cationic salt enclosing the active agents.

64. (Currently Amended) The drug delivery ~~device~~ composition of Claim 63, wherein the pectin is reticulated by a cationic polymer.

65. (Currently Amended) The drug delivery ~~device~~ composition of Claim 59, wherein the second active agent is specific for treating the symptoms of ulcerative colitis or Crohn's disease.

66. (Withdrawn but Currently Amended) A method of reducing the concentration of an antibiotic in the colon of a patient, comprising orally administering an effective, antibiotic-reducing amount of the drug delivery ~~device~~ composition of Claim 60 to a patient who has been, is being, or will be administered an antibiotic.

67. (Withdrawn but Currently Amended) The method of Claim 66, wherein the drug delivery ~~device~~ composition comprises an enzyme capable of inactivating macrolides or quinolones.

68. (Withdrawn) The method of Claim 67, wherein the enzyme capable of inactivating macrolides is erythromycin esterase.

69. (Withdrawn but Currently Amended) The method of Claim 66, wherein the second active agent is specific for treating the symptoms of ulcerative colitis or Crohn's disease.

70. (New) The drug delivery composition of Claim 12, wherein the active agent is a β-lactamase.

71. (New) The drug delivery composition of Claim 28, wherein the isolated active agent capable of inactivating an antibiotic is a β-lactamase.

72. (New) The drug delivery composition of Claim 45, wherein the isolated active agent capable of inactivating an antibiotic is a β-lactamase.

73. (New) The drug delivery composition of Claim 59, wherein the isolated active agent capable of inactivating an antibiotic is a β-lactamase.